ABSTRACT

AIM

To evaluate the different types of amblyopia, their characteristics, age of presentation, visual acuity at presentation and improvement with treatment.

MATERIALS AND METHODS

40 patients with amblyopia presenting to Squint and paediatric ophthalmology services of Regional Institute of Ophthalmology and Government Ophthalmic Hospital, were included in the study.

Patients of age 4 to 40 years with amblyopia due to various causes were included in the study. A detailed history of the patient, unaided visual acuity, best corrected visual acuity, slit lamp examination for anterior segment evaluation, fundus examination for posterior segment evaluation, cycloplegic refraction, assessment of strabismus, extra ocular movements, binocular status of eye was evaluated at the time of presentation and followed up during the study period.

All patients with amblyopia having refractive errors were advised appropriate glasses before occlusion therapy. Refraction was repeated once in two months. Occlusion therapy was advised to all patients combined with near vision activities. The near vision activities included reading, threading beads, writing, drawing, etc. The importance of compliance to treatment was emphasized to the patients and their family. They were followed up regularly and best corrected visual acuity was recorded.

RESULTS

In our study maximum number of patients (90%) were of age <15 years, who are school going children, there was no sex predilection for amblyopia, amblyopia was more prevalent in rural population(67.5%), defective vision was the most common presenting complaint of the

patients followed by strabismus. Myopic astigmatism(25%) and Hypermetropic anisometropia (22.5%) were the common refractive errors in the amblyopic patients of this study. Strabismic amblyopia(30%) and anisometropic amblyopia(27.5%) were more common than other types of amblyopia in this study. Among patients with anisometropic amblyopia 81.82% had hypermetropic anisometropia while only 18.18% had myopic anisometropia. 22.5% of the patients had bilateral amblyopia, the causes being bilateral ametropia and meridional amblyopia. In this study esotropia was more commonly associated with amblyopia than exotropia. 20% of the patients had eccentric fixation in this study. 42.5% of the patients had no binocular single vision. 10% in this study had nystagmus. The mean visual acuity in logMAR improved from 0.63 before treatment to 0.33 at the end of 6 months of treatment. The mean improvement in visual acuity at six months was highest for bilateral ametropic amblyopia(mean change by logMAR 0.43) and the lowest improvement was for stimulus deprivation amblyopia(mean change by logMAR 0.13). The mean improvement in visual acuity at 6 months of treatment was maximum for children less than 7 years of age (0.44 improvement in logMAR), followed by children of age 7 to 13 years (0.31 improvement in mean logMAR). The least improvement in visual acuity was observed in patients more than 13 years (0.17 improvement in mean logMAR).

CONCLUSION

In our study strabismus and refractive errors are the most common causes of amblyopia. The most common refractive errors associated with amblyopia are hypermetropic anisometropia and myopic astigmatism. Correction of refractive errors, occlusion therapy and near vision activities helped in improvement of visual acuity in the amblyopic eye. The response to treatment decreases as the age increases. Response to treatment is highest when the child is less than 7 years. Children of age 7 to 13 years had a lesser response, while the least improvement in

visual acuity occurs in patients more than 13 years. Hence it is vital to detect amblyopia in early childhood by identifying conditions which may cause amblyopia.

Keywords

amblyopia, anisometropia, strabismus, refractive errors, occlusion, patching, occluders